CLUB ESTATES; TM 5499 RPL2; ER 06-03-003
Storm Water Management Plan
For Priority Projects
(Major SWMP)

Project Name:	CLUB ESTATES
Permit Number (Land Development Projects):	TM 5499 RPL2
Work Authorization Number (CIP):	
Applicant:	V/O Pauma Development, L.P.
Applicant's Address:	P. O. Box 686, Pauma Valley, CA 92061
Plan Prepare By (*Leave blank if same as applicant*):	Szytel Engineering & Surveying, Inc. 760.741.6979
Date:	April, 2008
Revision Date (If applicable):	

The County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO) (Ordinance No. 9424) requires that all applications for a permit or approval associated with a Land Disturbance Activity be accompanied by a Storm Water Management Plan (SWMP) (section 67.806.b). The purpose of the SWMP is to describe how the project will minimize the short and long-term impacts on receiving water quality. Projects that meet the criteria for a priority project are required to prepare a Major SWMP.

Since the SWMP is a living document, revisions may be necessary during various stages of approval by the County. Please provide the approval information requested below.

Project Stages	Does the SWMP need revisions?		If YES, Provide Revision Date
	YES	NO	

Instructions for a Major SWMP can be downloaded at http://www.co.san-diego.ca.us/dpw/stormwater/susmp.html.

Completion of the following checklist and attachments will fulfill the requirements of a Major SWMP for the project listed above.

PROJECT DESCRIPTION

Please provide a brief description of the project in the following box.

The 48.31 acre Club Estates project is located on the southwesterly side of State Highway 76 in the County of San Diego (See Enclosures A&B). The project is approximately one half mile northwest of the intersection of Pauma Valley Drive and State Highway 76. This project will consist of a rural subdivision, ultimately comprising 30 single family custom estate home sites on one acre lots, with an existing dwelling on a 4.95 acre remainder lot and an 8.48 acre non-dwelling Open Space lot.

PRIORITY PROJECT DETERMINATION

Please check the box that best describes the project. Does the project meet one of the following criteria?

PRIORITY PROJECT	YES	NO
Redevelopment within the County Urban Area that creates or adds at least 5,000 net square feet of additional impervious surface area		
Residential development of more than 10 units	✓	
Commercial developments with a land area for development of greater than 1 acre.		
Automotive repair shops		
Restaurants, where the land area for development is greater than 5.000 square feet		
Hillside development, in an area with known erosive soil conditions, where there will be grading on any natural slope that is twenty-five percent or greater, if the development creates 5,000 square feet or more of impervious surface		
Environmentally Sensitive Areas: All development and redevelopment located within or directly adjacent to or discharging directly to an environmentally sensitive area (where discharges from the development or redevelopment will enter receiving waters within the environmentally sensitive area), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition.		
Parking Lots 5,000 square feet or more or with 15 parking spaces or more and potentially exposed to urban runoff		
Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater		

Limited Exclusion: Trenching and resurfacing work associated with utility projects are not considered priority projects. Parking lots, buildings and other structures associated with utility projects are subject to SUSMP requirements if one or more of the criteria above are met.

If you answered **NO** to all the questions, then **STOP**. Please complete a Minor SWMP for your project. If you answered **YES** to any of the questions, please continue.

STORMWATER QUALITY DETERMINATION

The following questions provide a guide to collecting information relevant to project stormwater quality issues. Please provide a description of the findings in text box below.

	QUESTIONS	COMPLETED	NA
1.	Describe the topography of the project area.	✓	
2.	Describe the local land use within the project area and adjacent areas.	✓	
3.	Evaluate the presence of dry weather flow.	✓	
4.	Determine the receiving waters that may be affected by the project throughout the project life cycle (i.e., construction, maintenance and operation).	✓	
5.	For the project limits, list the 303(d) impaired receiving water bodies and their constituents of concern.	✓	
6.	Determine if there are any High Risk Areas (municipal or domestic water supply reservoirs or groundwater percolation facilities) within the project limits.	✓	
7.	Determine the Regional Board special requirements, including TMDLs, effluent limits, etc.	✓	
8.	Determine the general climate of the project area. Identify annual rainfall and rainfall intensity curves.	✓	
9.	If considering Treatment BMPs, determine the soil classification, permeability, erodibility, and depth to groundwater.	✓	
10.	Determine contaminated or hazardous soils within the project area.	✓	

Please provide a description of the findings in the following box.

1-2. The project area is gently sloping to the southwest. Currently, part of the project and surrounding lands are used for citrus agriculture and open space. The southerly portion of the site will be left natural. Current conceptual grading will consist of private roads, pads and driveways.

3. The presence of dry weather flows have not been observed in 4 site visits over the past 3 years.

4. The Club Estates project is located in the San Luis Rey watershed hydrologic unit (903.11-903.32), and Monserate hydrologic area (903.2), and the Pauma sub-area (903.22). The project drains southwesterly to sheet flow areas which are tributary to the San Luis Rey River. The storm flows from this project will continue to release onto these areas which are 700 feet upstream from the San Luis Rey River. The runoff velocities should equate existing values. Overall, the project area represents 0.09 percent of the watershed.

5. According to the California 2006 303d list published by the San Diego Regional Water Quality Control Board, there are no impaired waterbodies that are associated with this project.
The project location and watershed has been compared to the current published 303d list of impaired water bodies. The nearest impaired water bodies are the San Luis Rey River, lower portion, impaired by chloride (lower 13 miles) and total dissolved solids (lower 17 miles). The closest impairment is at least 15 miles downstream of the project.

6-7. No High Risk Areas have been observed within the project limits. There are no Regional Board special requirements of record.

8. The general climate of the project area is known as Mediterranean. The average annual rainfall is about 24 inches. The equation given at the top of Figure 3-1 of the Hydrology Manual was used to determine the rainfall intensity for each drainage basin.

9. The project area consists of soil group B according to the County of San Diego Soils Interpretation Study. The

typical soils are sandy loam in nature and are represented by the Visalia and Ramona Series which have an average minimum saturated water holding capacity of 8"-10.5". Erosion potential is slight, and groundwater was not observed in any of the available soil profile areas.

10. Contaminated or hazardous soils were not observed within the project area.

TREATMANT BMP's DETERMINATION

Complete the checklist below to determine if Treatment Best Management Practices (BMPs) are required for the project.

No.	CRITERIA	YES	NO	INFORMATION
1.	Is this an emergency project		✓	If YES, go to 6. If NO, continue to 2.
2.	Have TMDLs been established for surface waters within the project limit?		✓	If YES, go to 5. If NO, continue to 3.
3.	Will the project directly discharge to a 303(d) impaired receiving water body?		✓	If YES, go to 5. If NO, continue to 4.
4.	Is this project within the environmentally sensitive areas as defined on the maps in Appendix A of the *County of San Diego Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects*?		✓	If YES, continue to 5. If NO, go to 6.
5.	Consider approved Treatment BMPs for the project.	✓		If YES, go to 7.
6.	Project is not required to consider Treatment BMPs			Document for Project Files by referencing this checklist.
7.	End			

Now that the need for a treatment BMP has been determined, other information is needed to complete the SWMP.

WATERSHED

Please check the watershed(s) for the project.

☐ San Juan ☐ Santa Margarita ✓ San Luis Rey ☐ Carlsbad
☐ San Dieguito ☐ Penasquitos ☐ San Diego ☐ Pueblo San Diego
☐ Sweetwater ☐ Otay ☐ Tijuana

Please provide the hydrologic sub-area and number(s)

Number	Name
903.22	Pauma sub-area

Please provide the beneficial uses for Inland Surface Waters and Ground Waters. Beneficial Uses can be obtained from the Water Quality Control Plan For The San Diego Basin, which is available at the Regional Board office or at http://www.swrcb.ca.gov/rwqcb9/programs/basinplan.html.

SURFACE WATERS	Hydrologic Unit Basin Number	MUN	AGR	IND	PROC	GWR	FRESH	POW	REC1	REC2	BIOL	WARM	COLD	WILD	RARE	SPWN
Inland Surface Waters																
San Luis Rey watershed	**903.11-903.32**	✓	✓	✓			✓	✓	✓	✓		✓	✓	✓		
Ground Waters																
San Luis Rey watershed	**903.11-903.32**	✓	✓	✓	✓		✓									

*** Excepted from Municipal**

X Existing Beneficial Use
0 Potential Beneficial Use

POLLUTANTS OF CONCERN

Using Table 1, identify pollutants that are anticipated to be generated from the proposed priority project categories. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern.

Table 1. Anticipated and Potential Pollutants Generated by Land Use Type

	General Pollutant Categories								
Priority Project Categories	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P(1)	P(2)	P	X
Commercial Development >100,000 ft^2	P(1)	P(1)		P(2)	X	P(5)	X	P(3)	P(5)
Automotive Repair Shops			X	X(4)(5)	X		X		
Restaurants					X	X	X	X	

	General Pollutant Categories								
Priority Project Categories	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Hillside Development >5,000 ft²	X	X			X	X	X		X
Parking Lots	P(1)	P(1)	X		X	P(1)	X		P(1)
Streets, Highways & Freeways	X	P(1)	X	X(4)	X	P(5)	X		

X = anticipated
P = potential
(1) A potential pollutant if landscaping exists on-site.
(2) A potential pollutant if the project includes uncovered parking areas.
(3) A potential pollutant if land use involves food or animal waste products.
(4) Including petroleum hydrocarbons.
(5) Including solvents.

Note: If other monitoring data that is relevant to the project is available, please include as Attachment C.

CONSTRUCTION BMPs

Please check the construction BMPs that might be used. The BMPs selected are those that may be implemented during construction of the project. The applicant is responsible for the placement and maintenance of BMPs selected at the time of construction.

- ☑ Silt Fence
- ☑ Fiber Rolls
- ☐ Street Sweeping and Vacuuming
- ☑ Storm Drain Inlet Protection
- ☑ Stockpile Management
- ☑ Solid Waste Management
- ☑ Stabilized Construction Entrance/Exit
- ☐ Dewatering Operations
- ☑ Vehicle and Equipment Maintenance
- ☐ Desilting Basin
- ☑ Gravel Bag Berm
- ☑ Sandbag Barrier
- ☑ Material Delivery and Storage
- ☑ Spill Prevention and Control
- ☑ Concrete Waste Management
- ☑ Water Conservation Practices
- ☑ Paving and Grinding Operations

☑ Any minor slopes created incidental to construction and not subject to a major or minor grading permit shall be protected by covering with plastic or tarp prior to a rain event, and shall have vegetative cover reestablished within 180 days of completion of the slope and prior to final building approval.

SITE DESIGN

To minimize stormwater impacts, site design measures must be addressed. The following checklist provides options for avoiding or reducing potential impacts during project planning. If YES is checked, it is assumed that the measure was used for this project. If NO is checked, please provide a brief explanation why the option was not selected in the text box below.

		OPTIONS	YES	NO	N/A
1.		Can the project be relocated or realigned to avoid/reduce impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions?	✓		
2.		Can the project be designed to minimize impervious footprint?	✓		
3.		Conserve natural areas where feasible?	✓		
4.		Where landscape is proposed, can rooftops, impervious sidewalks, walkways, trails and patios be drained into adjacent landscaping?	✓		
5.		For roadway projects, can structures and bridges be designed or located to reduce work in live streams and minimize construction impacts?			✓
6.		Can any of the following methods be utilized to minimize erosion from slopes:	✓		
	6.a.	Disturbing existing slopes only when necessary?	✓		
	6.b.	Minimize cut and fill areas to reduce slope lengths?	✓		
	6.c.	Incorporating retaining walls to reduce steepness of slopes or to shorten slopes?		✓	
	6.d.	Providing benches or terraces on high cut and fill slopes to reduce concentration of flows?			✓
	6.e.	Rounding and shaping slopes to reduce concentrated flow?	✓		
	6.f.	Collecting concentrated flows in stabilized drains and channels?	✓		

Please provide a brief explanation for each option that was checked NO in the following box.

6.c. Conceptual slope heights have been reduced to 9' or less.

LOW IMPACT DEVELOPMENT (LID)

In general, this is a Low Impact Development since its design features conserve natural areas and drainage, minimize soil compaction since approximately one-half of the project area will remain undisturbed and minimize impervious surfaces.

As shown in the project Drainage Study, the flow which currently reaches outfall A will be decreased dramatically by the creation of vegetated swales which will treat offsite upstream runoff while continuing toward the river confluence. At the same time, marked improvements in water quality treatment and flow control should be achieved because of the three proposed earthen channels taking the place of the current unmanaged, untreated and unruly flows. Since it has been established that this is not in a defined natural drainage course with all of the usual environmental amenities per the project Biology Report, the topographic depression grading has been proposed. The existing broad swale has been eroded by unattended agrarian discharge over the years which has stripped the upper soil layers of top soil, organic material, soil biota and vegetation, thereby eliminating the configuration favorable for storing and slowly conveying stormwater. It provides no attractive native landscape features. By filling and smoothing existing eroded areas creating flatter vegetated enhanced, pervious surfaces and implementing the integrated management practices provided by grass and vegetated swales and buffer strips to mimic the pre-agrarian hydrological function of the site, stormwater runoff will be reduced, water quality can be improved, existing environmental impacts to offsite properties and the river channel can be decreased.

CHANNELS & DRAINAGES

If the project includes work in channels, then complete the following checklist. Information shall be obtained from the project drainage report.

N/A

No.	CRITERIA	YES	NO	N/A	COMMENTS
1.	Will the project increase velocity or volume of downstream flow?				If YES go to 5.
2.	Will the project discharge to unlined channels?				If YES go to 5.
3.	Will the project increase potential sediment load of downstream flow?				If YES go to 5.
4.	Will the project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability?				If YES go to 7.
5.	Review channel lining materials and design for stream bank erosion.				Continue to 6.
6.	Consider channel erosion control measures within the project limits as well as downstream. Consider scour velocity.				Continue to 7.
7.	Include, where appropriate, energy dissipation devices at culverts.				Continue to 8.
8.	Ensure all transitions between culvert outlets/headwalls/wingwalls and channels are smooth to reduce turbulence and scour.				Continue to 9.
9.	Include, if appropriate, detention facilities to reduce peak discharges.				
10.	"Hardening" natural downstream areas to prevent erosion is not an acceptable technique for protecting channel slopes, unless pre-development conditions are determined to be so erosive that hardening would be required even in the absence of the proposed development.				Continue to 11.
11.	Provide other design principles that are comparable and equally effective.				Continue to 12.
12.	End				

SOURCE CONTROL

Please complete the following checklist for Source Control BMPs. If the BMP is not applicable for this project, then check N/A only at the main category.

BMP			YES	NO	N/A
1.	**Provide Storm Drain System Stenciling and Signage**		✓		
	1.a.	All storm drain inlets and catch basins within the project area shall have a stencil or tile placed with prohibitive language (such as: "NO DUMPING – DRAINS TO _____") and/or graphical icons to discourage illegal dumping.	✓		

BMP			YES	NO	N/A
	1.b.	Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area.	✓		
2.	**Design Outdoors Material Storage Areas to Reduce Pollution Introduction**				✓
	2.a.	This is a detached single-family residential project. Therefore, personal storage areas are exempt from this requirement.			
	2.b.	Hazardous materials with the potential to contaminate urban runoff shall either be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.			
	2.c.	The storage area shall be paved and sufficiently impervious to contain leaks and spills.			
	2.d.	The storage area shall have a roof or awning to minimize direct precipitation within the secondary containment area.			
3.	**Design Trash Storage Areas to Reduce Pollution Introduction**				✓
	3.a.	Paved with an impervious surface, designed not to allow run-on from adjoining areas, screened or walled to prevent off-site transport of trash; or,			
	3.b.	Provide attached lids on all trash containers that exclude rain, or roof or awning to minimize direct precipitation.			
4.	**Use Efficient Irrigation Systems & Landscape Design**				
	The following methods to reduce excessive irrigation runoff shall be considered, and incorporated and implemented where determined applicable and feasible.				
	4.a.	Employing rain shutoff devices to prevent irrigation after precipitation.	✓		
	4.b.	Designing irrigation systems to each landscape area's specific water requirements.	✓		
	4.c.	Using flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.	✓		
	4.d.	Employing other comparable, equally effective, methods to reduce irrigation water runoff.	✓		
5.	**Private Roads**				
	The design of private roadway drainage shall use at least one of the following				
	5.a.	Rural swale system: street sheet flows to vegetated swale or gravel shoulder, curbs at street corners, culverts under driveways and street crossings.			
	5.b.	Urban curb/swale system: street slopes to curb, periodic swale inlets drain to vegetated swale/biofilter.	✓		
	5.c.	Dual drainage system: First flush captured in street catch basins and discharged to adjacent vegetated swale or gravel shoulder, high flows connect directly to storm water conveyance system.			
	5.d.	Other methods that are comparable and equally effective within the project.	✓		
6.	**Residential Driveways & Guest Parking**				
	The design of driveways and private residential parking areas shall use one at least of the following features.				
	6.a.	Design driveways with shared access, flared (single lane at street) or wheelstrips (paving only under tires); or, drain into landscaping prior to discharging to the storm water conveyance system.	✓		

		BMP	YES	NO	N/A
	6.b.	Uncovered temporary or guest parking on private residential lots may be: paved with a permeable surface; or, designed to drain into landscaping prior to discharging to the storm water conveyance system.	✓		
	6.c.	Other features which are comparable and equally effective.	✓		
7.	**Dock Areas**				✓
	Loading/unloading dock areas shall include the following.				
	7.a.	Cover loading dock areas, or design drainage to preclude urban run-on and runoff.			
	7.b.	Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.			
	7.c.	Other features which are comparable and equally effective.			
8.	**Maintenance Bays**				✓
	Maintenance bays shall include the following.				
	8.a.	Repair/maintenance bays shall be indoors; or, designed to preclude urban run-on and runoff.			
	8.b.	Design a repair/maintenance bay drainage system to capture all wash water, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.			
	8.c.	Other features which are comparable and equally effective.			
9.	**Vehicle Wash Areas**				✓
	Priority projects that include areas for washing/steam cleaning of vehicles shall use the following.				
	9.a.	Self-contained; or covered with a roof or overhang.			
	9.b.	Equipped with a clarifier or other pretreatment facility.			
	9.c.	Properly connected to a sanitary sewer.			
	9.d.	Other features which are comparable and equally effective.			
10.	**Outdoor Processing Areas**				✓
	Outdoor process equipment operations, such as rock grinding or crushing, painting or coating, grinding or sanding, degreasing or parts cleaning, waste piles, and wastewater and solid waste treatment and disposal, and other operations determined to be a potential threat to water quality by the County shall adhere to the following requirements.				
	10.a.	Cover or enclose areas that would be the most significant source of pollutants; or, slope the area toward a dead-end sump; or, discharge to the sanitary sewer system following appropriate treatment in accordance with conditions established by the applicable sewer agency.			
	10.b.	Grade or berm area to prevent run-on from surrounding areas.			
	10.c.	Installation of storm drains in areas of equipment repair is prohibited.			
	10.d.	Other features which are comparable or equally effective.			
11.	**Equipment Wash Areas**				✓
	Outdoor equipment/accessory washing and steam cleaning activities shall be.				
	11.a.	Be self-contained; or covered with a roof or overhang.			
	11.b.	Be equipped with a clarifier, grease trap or other pretreatment facility, as appropriate			
	11.c.	Be properly connected to a sanitary sewer.			
	11.d.	Other features which are comparable or equally effective.			
12.	**Parking Areas**				✓
	The following design concepts shall be considered, and incorporated and implemented where determined applicable and feasible by the County.				

		BMP	YES	NO	N/A
	12.a.	Where landscaping is proposed in parking areas, incorporate landscape areas into the drainage design.			
	12.b.	Overflow parking (parking stalls provided in excess of the County's minimum parking requirements) may be constructed with permeable paving.			
	12.c.	Other design concepts that are comparable and equally effective.			
13.	**Fueling Area**				✓
	Non-retail fuel dispensing areas shall contain the following.				
	13.a.	Overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area. The fueling area shall drain to the project's treatment control BMP(s) prior to discharging to the storm water conveyance system.			
	13.b.	Paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete shall be prohibited.			
	13.c.	Have an appropriate slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of urban runoff.			
	13.d.	At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.			

Please list other project specific Source Control BMPs in the following box. Write **N/A** if there are none.

N/A

TREATMENT CONTROL

To select a structural treatment BMP using Treatment Control BMP Selection Matrix (Table 2), each priority project shall compare the list of pollutants for which the downstream receiving waters are impaired (if any), with the pollutants anticipated to be generated by the project (as identified in Table 1). Any pollutants identified by Table 1, which are also causing a Clean Water Act section 303(d) impairment of the receiving waters of the project, shall be considered primary pollutants of concern. Priority projects that are anticipated to generate a primary pollutant of concern shall select a single or combination of stormwater BMPs from Table 2, which **maximizes pollutant removal** for the particular primary pollutant(s) of concern.

Priority projects that are **not** anticipated to generate a pollutant for which the receiving water is Clean Water Act Section 303(d) impaired shall select a single or combination of stormwater BMPs from Table 2, which are effective for pollutant removal of the identified secondary pollutants of concern, consistent with the "maximum extent practicable" standard.

Table 2. Treatment Control BMP Selection Matrix

Pollutant of Concern	*Treatment Control BMP Categories*						
	Biofilters ✓	Detention Basins	Infiltration Basins(2)	Wet Ponds or Wetlands	Drainage Inserts	Filtration	Hydrodynamic Separator Systems(3)
Sediment	M	H	H	H	L	H	M
Nutrients	L	M	M	M	L	M	L
Heavy Metals	M	M	M	H	L	H	L
Organic Compounds	U	U	U	M	L	M	L
Trash & Debris	L	H	U	H	M	H	M
Oxygen Demanding Substances	L	M	M	M	L	M	L
Bacteria	U	U	H	H	L	M	L
Oil & Grease	M	M	U	U	L	H	L
Pesticides	U	U	U	L	L	U	L

(1) Copermittees are encouraged to periodically assess the performance characteristics of many of these BMPs to update this table.
(2) Including trenches and porous pavement.
(3) Also known as hydrodynamic devices and baffle boxes.

L: Low removal efficiency):
M: Medium removal efficiency):
H: High removal efficiency):
U: Unknown removal efficiency

Sources: *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters* (1993), *National Stormwater Best Management Practices Database* (2001), *Guide for BMP Selection in Urban Developed Areas* (2001), *and Caltrans New Technology Report (2001).*

A Treatment BMP must address runoff from developed areas. Please provide the post-construction water quality values for the project. Label outfalls on the BMP map. Q_{WQ} is dependent on the type of treatment BMP selected for the project.

Outfall	Tributary Area (acres)	Q_{100} (cfs)	Q_{WQ} (cfs)
A	14.8	27.2	1.0
B	18.0	32.4	1.2
C	1.7	2.0	0.1

For further details, please see the related Preliminary Hydrology/Drainage Study for TM 5499.

Please check the box(s) that best describes the Treatment BMP(s) selected for this project.

Biofilters

✓ Grass swale
✓ Grass strip
☐ Wetland vegetation swale
☐ Bioretention

Detention Basins

☐ Extended/dry detention basin with grass lining
☐ Extended/dry detention basin with impervious lining

Infiltration Basins

☐ Infiltration basin
☐ Infiltration trench

☐ Porous asphalt
☐ Porous concrete
☐ Porous modular concrete block

Wet Ponds or Wetlands

☐ Wet pond/basin (permanent pool)
☐ Constructed wetland

Drainage Inserts (See note below)

☐ Oil/Water separator
☐ Catch basin insert
☐ Storm drain inserts
☐ Catch basin screens

Filtration (loc)

☐ Media filtration
☐ Sand filtration

Hydrodynamic Separator Systems

☐ Swirl Concentrator
☐ Cyclone Separator
☐ Baffle Separator
☐ Gross Solids Removal Device
☐ Linear Radial Device

Note: Catch basin inserts and storm drain inserts are excluded from use on County maintained right-of-way and easements.

Include Treatment Datasheet as Attachment E. The datasheet should include the following:	**COMPLETED**	**NO**
1. Description of how treatment BMP was designed. Provide a description for each type of treatment BMP.	✓	
2. Engineering calculations for the BMP(s)	✓	

Please describe why the selected treatment BMP(s) was selected for this project. For projects utilizing a low performing BMP, please provide a detailed explanation.

Due to the moderate natural topography and proposed area storm drains, Biofilters were selected as the most feasible treatment for the enhancement of potential water quality.

MAINTENANCE

Please check the box that best describes the maintenance mechanism(s) for this project.
Visit: http://www.sdcounty.ca.gov/dpw/stormwater/maintenance.html

CATEGORY	**SELECTED**	
	YES	**NO**
First	✓	
Second		
Third		
Fourth		

ATTACHMENTS

Please include the following attachments.

ATTACHMENT		COMPLETED	N/A
A	Project Location Map	✓	
B	Site Map	✓	
C	Relevant Monitoring Data		✓
D	Treatment BMP Location Map	✓	
E	Treatment BMP Datasheets	✓	
F	Operation and Maintenance Program for Treatment BMPs	✓	
G	Fiscal Resources	✓	
H	Certification Sheet	✓	
I	Soil Group Map	✓	
J	Drainage Outfall Map	✓	
K	Treatment strategy for SR 76 paving	✓	

Note: Attachments A, B and D have been combined as an enclosure.
Attachment J has been included as an enclosure also.